

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

NOTES ON THE DISTRIBUTION OF SOME COLORADO
MAMMALS.

BY EDWARD R. WARREN.

During the summer of 1911 I made a somewhat extended collecting trip by wagon through north-central Colorado, accompanied by Mr. H. R. Durand as assistant. Work was first done on the plains and "Divide" region as far east as Cedar Point, Elbert County, and then turning westerly and northerly as far as Pawnee Buttes, and thence westerly again, the mountains were reached by way of Log Cabin, Elkhorn and Chambers Lake, and the Medicine Bow Range crossed by way of Cameron Pass into North Park, which was set off as Jackson County two years ago. Most of the work was done on the west side of the Park, and then Buffalo Pass crossed to Steamboat Springs, and the return to Denver was via Gore and Berthoud Passes. The collections made on this trip resulted in greatly extending the known range of one species of chipmunk, and add something to our knowledge of the distribution of two others; another record of *Phenacomys* was added to the very few Colorado occurrences of that genus; certain other notes were made which seem worthy of record, and I have added some notes lately made by myself in other portions of the State, besides the two records of *Nycterus borealis* which I am permitted to publish herewith and for which due credit is given under that species.

I am under obligation to the Bureau of the Biological Survey for the identification of the specimen of *Phenacomys*. Mr. Durand kindly loaned for comparison some specimens collected by himself on the expedition.

Zapus princeps Allen.

Two specimens of this jumping mouse were taken on Mt. Zirkel, Jackson County, July 11 and 12, 1911, at 9500 feet; one was taken at Brand's ranch, near Lake John, 8200 feet, July 7, and one on the Gore Pass road, about five miles east of Toponas, Routt County, 8300 feet, August 4, 1911. This species seems to be widely distributed through the mountainous parts of Colorado, though but comparatively few records of localities have been published.

Microtus pauperrimus (Cooper).

A single specimen of this species was taken at Walden, North Park, Jackson County, June 28, 1911. It was captured on an alkali flat west of the town, the trap being set under a greasewood (*Sarcobatus*) bush. I was unable to secure any more, though many traps were kept set in the locality for several days. The Pigmy Vole has such a very interrupted distribution in Colorado that each new locality should be recorded.

Phenacomys orophilus Merriam.

A specimen of this species was trapped by H. R. Durand near Buffalo Pass at about 10,000 feet altitude, July 25, 1911. This makes the third record for Colorado, the other two being one taken by myself at Lake Moraine, El Paso County, and a specimen in the National Museum from Fairplay, Park County.* The genus is certainly very rare in the State, for altogether only five Colorado specimens are known of the two species which occur here.

Neotoma floridana baileyi Merriam.

Merritt Cary† mentions finding woodrats' nests at Cedar Point, Elbert County, a few miles northwest of Limon, and states that the animals are probably this species. In a letter written a couple of years ago he spoke of this to me, suggesting that I try and obtain specimens. I paid a visit to the place May, 1911, finding several fresh nests, and collecting one individual, which, as Cary surmised, proved to be *Neotoma f. baileyi*. This is the most northwestern occurrence in Colorado of this species thus far recorded.

Reithrodontomys megalotis (Baird).

A new Colorado record for the Big-eared Harvest Mouse is a specimen sent me by C. H. Smith in November, 1910, and taken at Coventry, Montrose County, altitude 6800 feet, some time that fall. The animal was captured by Mr. Smith's cat, which should have due credit for taking a species which had escaped the notice of Smith, Merritt Cary, and myself, all of us having collected in that locality. The species must be rather rare in that region, or it would have been taken before.

* Cary, N. Am. Fauna No. 33, p. 119, 1911.

† N. Am. Fauna No. 33, p. 115, 1911.

Citellus elegans (Kennicott).

August 7, 1911, we saw a number of Wyoming Ground Squirrels immediately below the mining town of Empire, Clear Creek County, 8260 feet altitude. The animals were seen along the road just after passing through the town. I had never heard of this species being anywhere in that region before, and am somewhat at a loss to account for its presence. To my knowledge the nearest point at which it occurs is Fraser, some fifteen miles distant in an airline, and on the other side of the Continental Divide. It may possibly have crossed Berthoud Pass, though this hardly seems likely, as most of the intervening country is not of the sort it frequents, being very mountainous, and the Pass itself having an elevation of 11,000 feet. Nor in fact was the locality where I saw these such as the animal prefers, being a rather narrow rocky gulch. It seems more than likely that this colony has sprung from pet animals some one has turned loose or allowed to escape. If allowed to exist and multiply these animals may eventually become pests by finding their way down the Clear Creek Valley and out into the more open country where there are cultivated lands. They can not do much harm at their present location.

Citellus obsoletus (Kennicott).

A specimen of Kennicott's Ground Squirrel was collected, and a few others seen by the roadside between Simla and Mattison, Elbert County, May 24, 1911. This is the valley of Big Sandy Creek, and on the southern slope of the Arkansas-Platte Divide, and I think the most western record for that district. June 11, 1911, two were secured near Fosston, Weld County. Not a great deal is as yet known of the distribution of this species in Colorado, but it will no doubt be found in most of the sandy portions of the northeastern plains.

Eutamias quadrivittatus (Say).

The range of this species was extended on the eastward of the Medicine Bow Range considerably to the north by the capture of a specimen about 2 miles east of Log Cabin, Larimer County, altitude 7450 feet, June 16, 1911. Cary* gives the known northern limit along the eastern foothills as southwest of Arkins, which is 25 miles south of Log Cabin. On the west side of the North Park specimens taken by me on Mt. Zirkel make an extension of 65 miles north of what may be considered the previous northwestern record, Yarmony Creek, Eagle County, which is almost due south of Mt. Zirkel, and the latter is only 3 miles north of Log Cabin, though over 60 miles west of that place. It should be remarked, however, that I have previously recorded† this chipmunk from Grand Lake, Grand County, which is 25 miles north of Yarmony Creek, but 45 miles east, and 55 miles almost due southeast from Mt. Zirkel. The Mt. Zirkel specimens were collected between 9300 and 9800 feet altitude. Specimens

* N. Am. Fauna No. 33, p. 71, 1911.

† Further Notes on the Mammals of Colorado, Colo. College Pub.: Gen. Ser. No. 33, p. 68, 1908.

were also taken about Buffalo Pass, 18 miles south of Mt. Zirkel, at between 10,000 and 10,500 feet. From the relative situations of the four localities just named it would seem probable that the species would eventually be taken all along the Continental Divide and the Park Range in Grand, Routt, and Jackson Counties. At both Mt. Zirkel and Buffalo Pass the species was quite common; at our camp on Mt. Zirkel as common as *E. consobrinus*, and much tamer, while at Buffalo Pass it did not appear to be as numerous as the other species, and curiously enough not so familiar. I discovered this in baiting them at both places for photographing.

Another interesting Colorado record of this chipmunk is a specimen I took on the south slope of Crested Butte Mountain, Gunnison County, at 9500 feet, October 8, 1910. It was the first of the species I have ever seen in that region. I do not know if it has any bearing on the matter, but the animal was killed near the only yellow pines I know of on that mountain, and they would hardly be growing there at such an altitude if it was not a warm southern exposure, though as noted above, this chipmunk ranges to a considerably higher altitude.

Of five chipmunks taken at Pagosa Springs, Archuleta County, in the fall of 1911, two were *quadricittatus* and three *operarius*.

***Eutamias amoenus operarius* Merriam.**

This species was taken at Chambers Lake, Larimer County, at an altitude of 9100 feet. Of four chipmunks taken at this locality June 19-21, 1911, two were the present species, and two *E. m. consobrinus*. It is extremely interesting to find this overlapping of the ranges of these two species, though it has been previously recorded by Cary,* who found them together at Canadian Creek, at the west base of the Medicine Bow Range, in the North Park, and also at Coulter, Grand County.

May 22, 1911, I took a specimen of this species at Elbert, a town on the Arkansas-Platte Divide, and well out toward the eastern end of the heavier timber growth. The only other record I have of chipmunks from the Divide is from Palmer Lake, at the east base of the foothills, where both *E. operarius* and *E. quadricittatus* were taken by R. B. Rockwell. Both should be at Elbert. I saw other chipmunks there besides the one collected, but was unable to secure more.

As noted under *E. quadricittatus*, the present species was taken at Pagosa Springs, Archuleta County, October, 1911, among the yellow pines. It does not appear to be definitely recorded from that locality.

***Eutamias minimus consobrinus* (Allen).**

As just stated under the preceding species, this chipmunk was taken at Chambers Lake, Larimer County. Two were also taken on the North Park or Jackson County side of the Medicine Bows, a few miles below Cameron Pass, at an altitude of 9500 feet, and approximately opposite

* Some Unrecorded Colorado Mammals. Proc. Biol. Soc. Washington, XX, pp. 24-25, 1907.

Chambers Lake. As these chipmunks range to timberline or higher, there is nothing to prevent their crossing the Medicine Bow Range.

Two specimens taken on the Buffalo Pass road seem to show a tendency toward *operarius*. The color is very like that species, so much so that from it alone I would call them such, and the measurements, especially of the hind foot, are those of *operarius*, while the skulls are unmistakably *consobrinus*. As the locality is a good distance from the present known range of *operarius* it seems best to refer them to *consobrinus*, though it will not be so very surprising if future collecting along the Continental Divide, which forms the south and west boundaries of the North Park, showed *operarius* distributed all along the south side of the Park.

Sciurus fremonti neomexicanus Allen.

Cary, N. Am. Fauna No. 33, pp. 70-71, speaks of the possibility that this subspecies may occur in Colorado, and mentions that it has been taken at Costilla Pass and Bear Cañon, New Mexico, within a few miles of the Colorado boundary. A squirrel taken by me at Terecio, Las Animas County, 7800 feet, September 24, 1909, is unquestionably *fremonti*, being identical with other specimens in my collection from various parts of Colorado. Terecio is 6 miles north of the New Mexico boundary, and about 20 northeasterly from Costilla Pass, and in the eastern foothills of the Culebra Range. It is, however, possible that *neomexicanus* may extend into the State on the west slopes of that range. To the best of my belief no collecting has been done in that region. A squirrel taken at Pagosa Springs, Archuleta County, October 1, 1911, is also *fremonti*. This place is about 20 miles north of the New Mexico boundary.

Nycteris borealis (Müller).

There are two Colorado occurrences of the Red Bat to be recorded. There are two specimens in the Colorado Museum of Natural History, Denver, taken at Wray, Yuma County, August 25, 1911, by Mr. L. J. Hersey, Curator of Ornithology at the Museum, who has kindly given me permission to publish the record. Mr. Hersey tells me they were found hanging to a wild grape vine in a creek bottom.

The other record is of a specimen in the collection of the State Historical and Natural History Society, Denver, taken northwest of Littleton, Arapahoe County, August 27, 1911. I am indebted to the Society, through Mr. Horace G. Smith, Assistant Curator, for liberty to publish this record.

It is odd that these specimens, collected but two days apart, were taken, the first mentioned nearly at the east boundary of the State, and the other at the east base of the foothills, the space between the two localities covering the entire plains region. The only other record of the Red Bat for Colorado is Greeley, A. E. Beardsley.*

* Warren, The Mammals of Colorado, Colo. College Pub., Gen. Ser. No. 19, p. 268, 1906.